

Offshore Scallop Explorations -- 1957

by

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Scallop* explorations during 1957 have discovered new commercially valuable beds on the southern part of St. Pierre Bank. The explorations this year, like those conducted in 1953 and 1954, were joint efforts by the Department of Fisheries and Fisheries Research Board. The earlier efforts found a small but highly productive bed on the northern part of St. Pierre Bank (See General Series Circular, No. 25) which helped to encourage expansion of the Canadian scallop industry. In the years 1953 to 1956 the fleet landed over a million pounds of meats from it alone. This earlier success prompted the 1957 explorations. It is hoped that results of the new discovery will be equally gratifying.

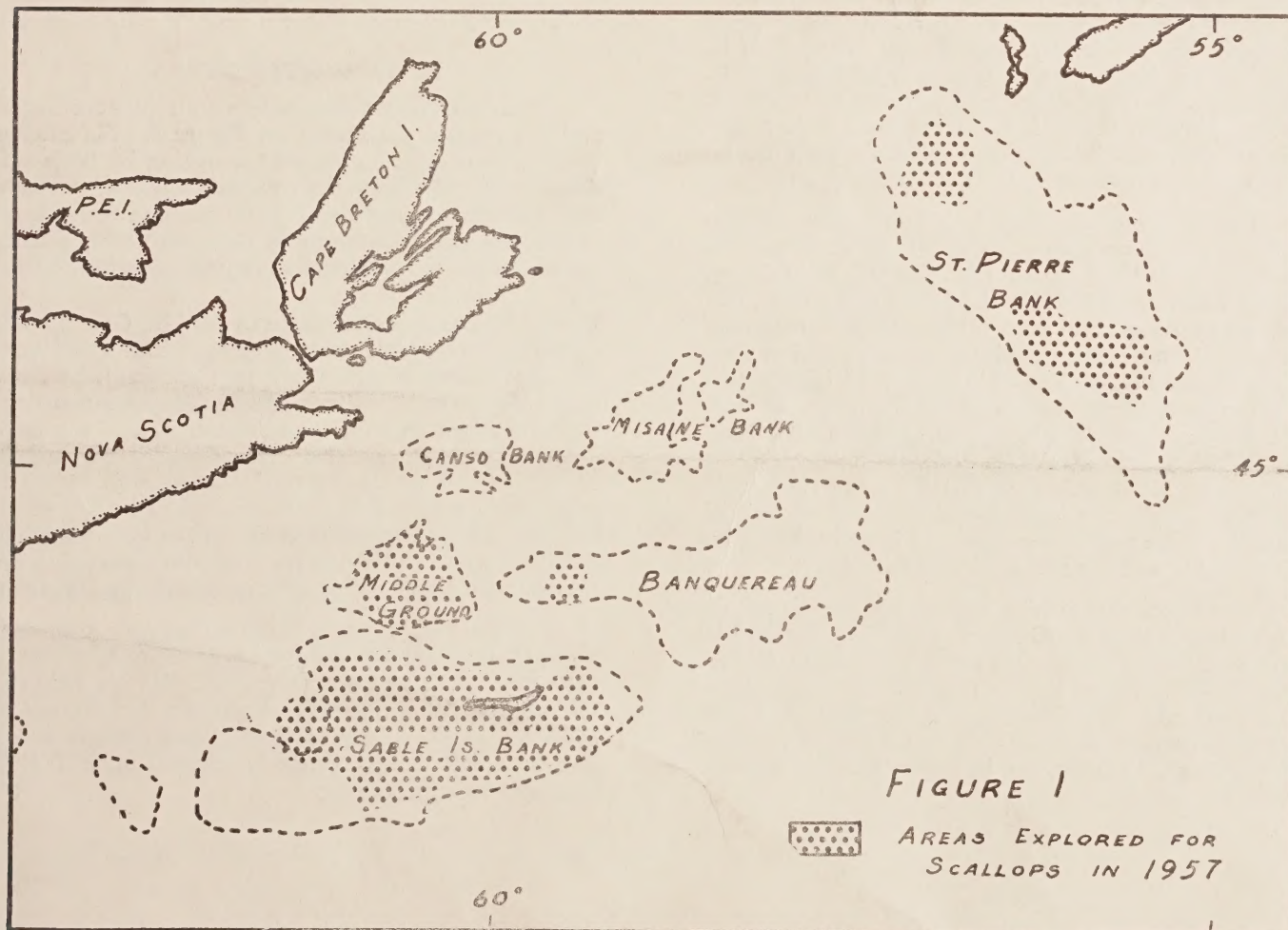
This year the scallop dragger M/V *Barbara Jo* (Captain Douglas Mosher) was chartered. The survey

**Placopecten magellanicus*, Gmelin, commonly called the "giant", "deep-sea" or "Digby" scallop.

covered St. Pierre Bank, the eastern Nova Scotia banks and shore areas in the northern Gulf of St. Lawrence and around the Magdalen Islands. This circular describes operations in the first two of these areas only (Figure 1). The *Barbara Jo* made no commercially interesting finds in the Gulf of St. Lawrence. For this reason results of explorations in that area are being compiled separately.

The fishing gear used was the same as is regularly used in commercial fishing: that is, two 13-foot off-shore or "New Bedford" style drags towed at the same time. Where possible, the two drags were towed for 30 minutes, hauled, and immediately reset. In this circular the catch is always given as the number of bushels of whole scallops caught by towing the 2 drags for 30 minutes.

Tows were made in almost continuous straight-line series. That is, each tow started where the



previous one ended. Successive lines were spaced 2 to 3 miles apart on the most promising parts of banks and not over 4 miles apart on less promising parts.

Each place where the catch was over 10 bushels, a spot buoy was set out and tows were made in various directions from it. Another buoy was then set 2 or 3 miles away in the direction of the best catches and tows made around it. This process was repeated until the edges of the bed were reached and its size was estimated.

With assistance from the skipper, the Fisheries Research Board observer plotted the position of each tow using the boat's Loran, Radar and depth sounders. Records were kept of the numbers and sizes of scallops in each haul, the size and quality of the scallop meats, and other pertinent facts. In areas of special interest samples of shells were collected for determining ages and growth rates. All this information is important in predicting the potential production of new beds.

The results of the survey are described below.

ST. PIERRE BANK

Two beds which can be profitably fished by large draggers were found on southern St. Pierre Bank. Their positions are shown in Figure 2. This figure has been traced directly from Loran Chart 6611-L, issued by the Hydrographic Office, Washington, D.C. in January, 1951, and corrected by Notice to Mariners, No. 22, May 30, 1953. It is on the same scale as the original chart so that the positions of the beds can be traced directly back on to the navigation chart.

The larger of the new beds is roughly rectangular and covers an area of 60 to 70 square miles. Its center is at 45° 35' North Lat., 56° 02' West Long. (Loran bearings: IHI-1752, IL3-3500). It is in 24 to 26 fathoms of water, and runs NNW and SSE magnetic for 12 to 14 miles with a width of about 5 miles. Catches ranged from 15 to 25 bushels, the higher catches being made at the north and south ends of the bed. The northern concentration was at 45° 37' N. Lat., 56° 06' W. Long. (IHI-1745, IL3-3485), the southern one at 45° 32' N. Lat., 55° 57' W. Long. (IHI-1750, IL3-3502). The shells averaged about 5 inches in diameter. The meats were firm and large in diameter, but short because the shells were relatively flat.

We believe that fishing on this bed now is profitable — better than on Georges Bank. But the bed is small so it seems likely that catches will soon fall to Georges Bank Levels if it is fished intensively. However, there are several age-classes represented in the population and growth is fairly fast. It is, therefore, likely that good catches can be made there for a short

time each year for several years.

The second and smaller new bed lies about 8 miles North magnetic from the first. It covers about 4 square miles and has its centre at 45° 44' N. Lat., 56° 09' W. Long. (IHI-1717, IL3-3475). It is in 25 to 26 fathoms. Catches ranged between 11 and 15 bushels, but the scallops were slightly larger, with larger meats than on the other bed. As a result, catches per day's dragging might be nearly as high as on the more thickly populated bed to the south.

The old bed discovered on the northern part of the bank in 1953 and fished for several years, was also surveyed again this year. The positions and sizes of the best hauls are marked on Figure 2. Best catches were between 11 and 14 bushels which is probably not enough different from Georges Bank catches to invite fishing this year. However, there are fair numbers of smaller scallops, and growth is fairly fast, so that there are prospects for more attractive catches in 1958.

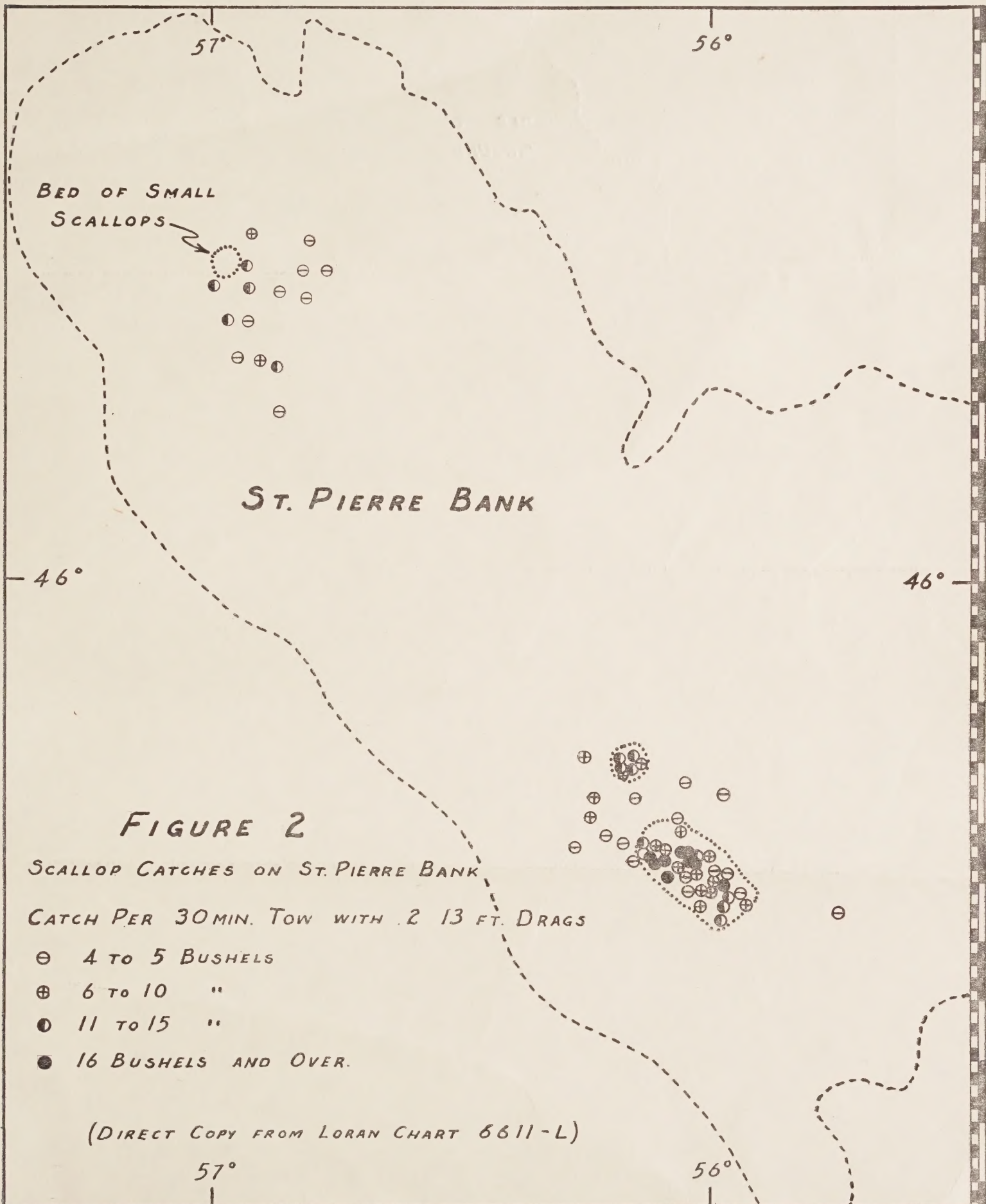
An encouraging feature of all the St. Pierre beds is the abundance of small scallops. A particularly good catch of small ones was made near the old bed at 46° 27' N. Lat., 56° 58' W. Long. (IHI-1528, IL3-3490) (Figure 2). Such finds encourage the belief that St. Pierre Bank is a regular producer of scallops and may continue to support a small fishery for many years.

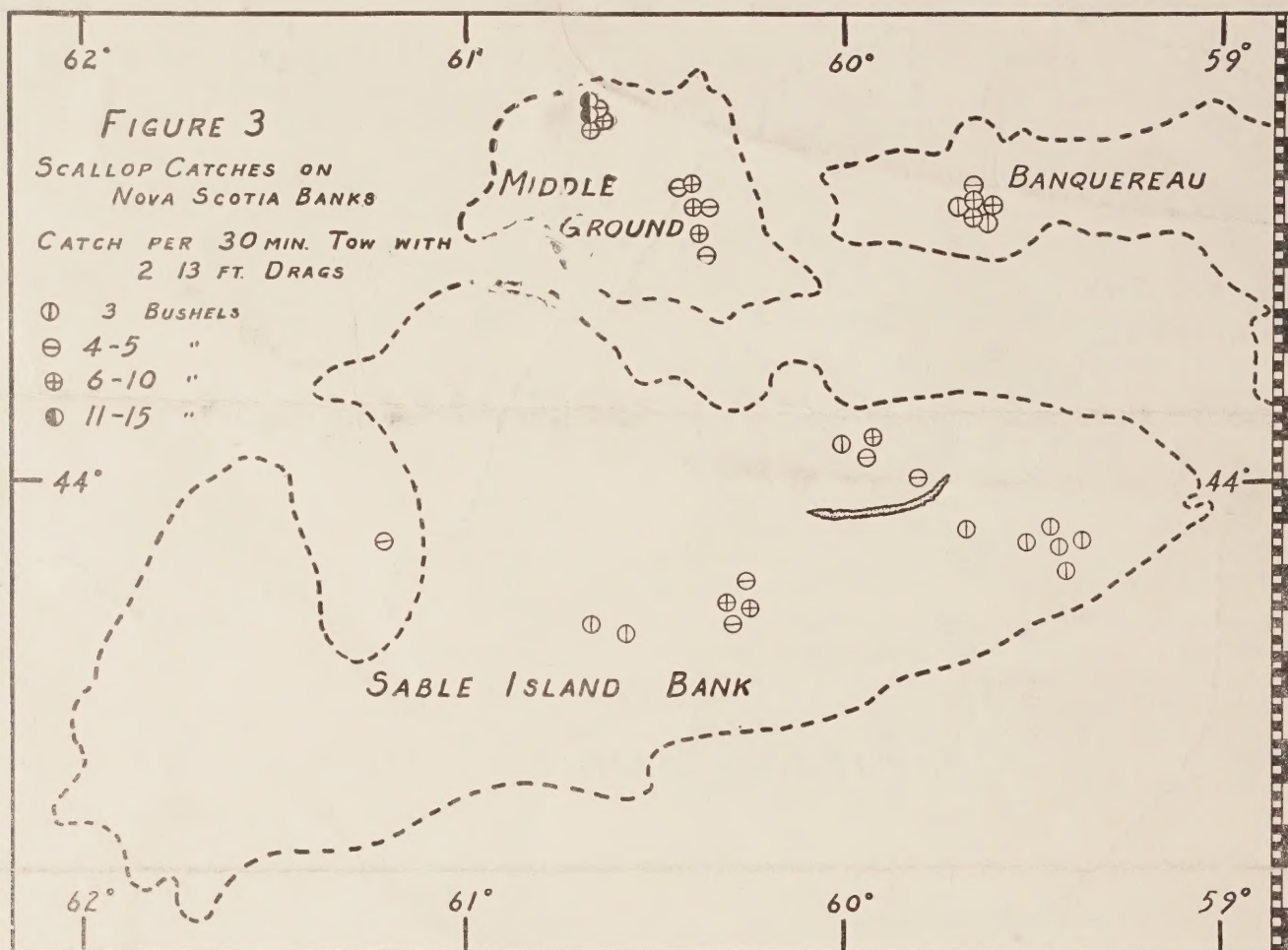
NOVA SCOTIA BANKS

Areas off Nova Scotia where scallops were found and the catches are shown on Figure 3. No catches were large enough to encourage fishing by large off-shore vessels. However, the best beds are close to Canso and Louisbourg and small boats with two- or three-man crews might fish some of them profitably during the summer. For this reason they are described here.

Middle Ground: The whole of Middle Ground was carefully explored because it seemed that small beds like that found 10 years ago by Captain John Beck might be found. The results were disappointing. One small new spot on the southeast part of the bank was found, but catches there were only 8 to 10 bushels, barely enough for commercial fishing even by small boats. On the site of Captain Beck's bed — 44° 42' N. Lat., 60° 41' W. Long. (IHI-2911, IH2-3446) — we made catches of up to 13 bushels per tow. Shells averaged 5½ inches in diameter and the meats were large and firm.

From all reports, this bed has changed little since it was first discovered. Its total area is small, probably little more than 3 or 4 square miles. But in 1954 the M/V *Elaine W.*, under charter to the Department of Fisheries, made catches of over 1,000 pounds a day there. Small boats, properly rigged, should find fishing it to be profitable.





Banquereau: Catches of 8 bushels were made at about 44° 28' N. Lat., 59° 40' W. Long. (IH1-2678, IH2-3431). As on Middle Ground the meats were large and firm, and besides this there were fair numbers of small scallops. In 1953 the M/V *Irish Patriot* made catches of about 4 bushels in the same general area. It appears, therefore, that the bed is undergoing a slow increase in abundance.

Although catches were lower here than on Middle Ground, further dragging might discover more profitable concentrations. In any case, fishing should improve slightly by next year.

Sable Island Bank: When it was surveyed in 1953 and 1954, Sable Island appeared to offer fair prospects for future fishing although catches were below profitable levels at that time. This year's results show that abundance has decreased. Catches were consistently lower than on other banks. Furthermore the scallops

were for the most part old and the meats tough and stringy. Conditions do not seem to have changed greatly since 1953, and are not likely to improve in the near future.

In general Nova Scotia banks do not support large concentrations of scallops. Large boats would not find them worth fishing as long as Georges Bank and St. Pierre Bank stocks are available. However, it is possible that small boats, such as those employed in long-lining, or engaged in scalloping in the Bay of Fundy, could make profitable catches.

Enquiries about explorations should be addressed to The Director, Fisheries Research Board of Canada, Biological Station, St. Andrews, N. B.